

# ***61 Cooperative Learning Activities for Computer Classrooms***

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## 18. Squeezing Money out of a Lemon— Part I: The Spreadsheet

TEACHER  
GUIDE PAGE

**Skills:** (1) **Spreadsheet**—moving around the spreadsheet, entering text and numbers and simple formulas, and formatting cell contents (text: style, font type, size, justification; numbers: currency, number of decimal places; borders). (2) **Word Processing**—starting a new document, editing, spell checking, block operations, saving and opening a file, and printing.

**Objectives:** To use a spreadsheet to determine the possible profitability of an imaginary lemonade stand. To use small-group cooperative learning decision-making skills.

**Level:** Intermediate.

**Group Size:** Three to six students.

**Time Required:** One class period if students are loading the spreadsheet file created by the teacher. Two class periods if students are required to enter the spreadsheet.

**Materials Needed:** One computer per group with spreadsheet and word processing capabilities.

**Procedure:** Often students want to know “What’s in it for me?” before they put forth an effort. For those kinds of students, this is a perfect activity. Students use a preexisting spreadsheet program to predict future profitability of an imaginary lemonade stand. The spreadsheet format is

shown with and without formulas in the student section. Either the students or you can enter the spreadsheet. Students then play with the numbers in order to determine the best plan of action for selling lemonade. Each group writes a report and presents their numbers and ideas to you and the rest of the class.

**Evaluation:** Evaluate students based on spreadsheet use and small-group interaction. Students are also evaluated based on the final report and presentation.

**Special Tips:** Review the format for entering formulas with your spreadsheet program. The examples in this activity work with Microsoft Works and ClarisWorks.

This is a good activity to share with a home and career teacher.

The item the students sell does not have to be lemonade. Let the students choose what they wish to sell.

For a challenge, have students add the month of **September** to the bottom and top of the spreadsheet. The **Total** information at the top of the spreadsheet will have to be moved to column F to make room for September statistics.

## Squeezing Money out of a Lemon—Part I: The Spreadsheet

Just imagine that during the upcoming summer, you and your group have decided to earn some money. The meteorologists have predicted a long, hot summer. So a lemonade stand should be a perfect moneymaking idea. But how do you know it will be successful? Will it be profitable? How much money will it cost to get started? Is it going to be worth the effort?

You can answer all of these questions through the use of a spreadsheet. The spreadsheet shown in Figure 3.2 keeps track of the profits and expenses of your imaginary lemonade stand. Using a spreadsheet will help your group determine the price to charge for a glass of lemonade in order to optimize your profits. Look over the spreadsheet, and then check out the spreadsheet in Figure 3.3. It displays all the formulas needed to make this lemonade spreadsheet work.

	A	B	C	D	E	F
1	<b>Sean's Lemonade Stand</b>					
2						
3		<b>June</b>	<b>July</b>	<b>August</b>	<b>Total</b>	
4	<b>Sales</b>	\$40.00	\$125.00	\$240.00	\$405.00	
5	<b>Expenses</b>	\$20.00	\$50.00	\$120.00	\$190.00	
6	<b>Profit</b>	<b>\$20.00</b>	<b>\$75.00</b>	<b>\$120.00</b>	<b>\$215.00</b>	
7						
8	<b>June Sales and Expenses</b>					
9	<b>Ingredients</b>	<b>Cost/Cup</b>	<b>Cost Totals</b>			<b># Sold</b>
10	Lemons	\$0.10	\$10.00			100
11	Sugar	\$0.02	\$2.00			<b>Price/Cup</b>
12	Cups	\$0.03	\$3.00			\$0.40
13	Ads	\$5.00				<b>Total Sales</b>
14	<b>Total Expenses</b>	<b>\$20.00</b>				<b>\$40.00</b>
15						
16	<b>July Sales and Expenses</b>					
17	<b>Ingredients</b>	<b>Cost/Cup</b>	<b>Cost Totals</b>			<b># Sold</b>
18	Lemons	\$0.10	\$25.00			250
19	Sugar	\$0.02	\$5.00			<b>Price/Cup</b>
20	Cups	\$0.03	\$7.50			\$0.50
21	Ads	\$12.50				<b>Total Sales</b>
22	<b>Total Expenses</b>	<b>\$50.00</b>				<b>\$125.00</b>
23						
24	<b>August Sales and Expenses</b>					
25	<b>Ingredients</b>	<b>Cost/Cup</b>	<b>Cost Totals</b>			<b># Sold</b>
26	Lemons	\$0.20	\$80.00			400
27	Sugar	\$0.02	\$8.00			<b>Price/Cup</b>
28	Cups	\$0.03	\$12.00			\$0.60
29	Ads	\$20.00				<b>Total Sales</b>
30	<b>Total Expenses</b>	<b>\$120.00</b>				<b>\$240.00</b>
31						
32						

Figure 3.2

(continued)



## Squeezing Money out of a Lemon— Part I: The Spreadsheet *(continued)*

	A	B	C	D	E	F
1	<b>Sean's Lemonade Stand</b>					
2						
3		June	July	August	Total	
4	<b>Sales</b>	=F11	=F19	=F27	=SUM(B4..D4)	
5	<b>Expenses</b>	=C14	=C22	=C30	=SUM(B5..D5)	
6	<b>Profit</b>	=B4-B5	=C4-C5	=D4-D5	=E4-E5	
7						
8	<b>June Sales and Expenses</b>					
9	<b>Ingredients</b>	Cost/Cup	Cost Totals			# Sold
10	Lemons	\$0.10 =B10*F9				100
11	Sugar	\$0.02 =B11*F9				Price/Cup
12	Cups	\$0.03 =B12*F9				\$0.40
13	Ads		\$5.00			Total Sales =F9*F10
14	<b>Total Expenses</b>	=SUM(C10..C13)				
15						
16	<b>July Sales and Expenses</b>					
17	<b>Ingredients</b>	Cost/Cup	Cost Totals			# Sold
18	Lemons	\$0.10 =B18*F17				250
19	Sugar	\$0.02 =B19*F17				Price/Cup
20	Cups	\$0.03 =B20*F17				\$0.50
21	Ads		\$12.50			Total Sales =F17*F18
22	<b>Total Expenses</b>	=SUM(C18..C21)				
23						
24	<b>August Sales and Expenses</b>					
25	<b>Ingredients</b>	Cost/Cup	Cost Totals			# Sold
26	Lemons	\$0.20 =B26*F25				400
27	Sugar	\$0.02 =B27*F25				Price/Cup
28	Cups	\$0.03 =B28*F25				\$0.60
29	Ads		\$20.00			Total Sales =F25*F26
30	<b>Total Expenses</b>	=SUM(C26..C29)				
31						
32						

Figure 3.3

In this activity, your group is responsible for entering the correct information into the spreadsheet and then experimenting with the spreadsheet to predict a few different outcomes. Try entering a new number for the cost of lemons or sugar and watch how it affects the spreadsheet. Change the number of cups sold to a low number and see what happens. Experiment with the numbers. By trying different scenarios, you can determine the best course of action for the summer sales. Keep in mind that you must keep your prices reasonable, or no one will buy your lemonade.

When your group has come up with what you believe to be the best possible scenario, print two copies of your spreadsheet, one displaying formulas and one without the formulas. Include a short report explaining your decisions. Also in the report, include any ideas on advertising, lemonade stand location, possible franchises, or other ideas that might increase your profits. Present your report to the teacher and to the rest of the class.



## 28. School Calendar

TEACHER  
GUIDE PAGE

**Skills: Desktop Publishing**—entering text or importing a text document into a text frame, changing text (style, size, font type, alignment, and spacing), moving a text frame, importing and customizing graphics (resize, flip, move, copy), selecting a page layout, and saving and printing a document.

**Objectives:** To become familiar with and use desktop publishing or stationery software. To use small- and large-group cooperative learning techniques to create a class calendar.

**Level:** Beginner.

**Time Required:** Three class periods.

**Group Size:** Three to six students. The class will also be working as one large group.

**Materials Needed:** At least one computer per group with desktop publishing and word processing capabilities, clip art, and a printer.

**Procedure:** Students create a class calendar. After you divide the students into six small groups, they brainstorm for ideas to include in their calendar. As a large group, the class votes on the suggestions. You then assign each small group two months of the year. It is their responsibility to fulfill the calendar requirements for those two months. The class then combines their work. You will need a printed copy of the calendar for each student.

**Evaluation:** Evaluate students based on small group performance, interaction with the other groups, and the final quality of the calendar.

**Special Tips:** If you are using this activity in the middle of the year, have the students create a calendar for the remaining months or for next year.

While this activity can be done with a desktop publishing program, it is much easier with a stationery program (such as PrintShop or Print Master) or a more professional calendar-generating program (such as Calendar Creator Plus). A stationery program is best for younger students, while older ones can use a desktop publishing or a more professional calendar-generating program.

Use stationery software to create other printed items such as letterhead, signs, cards, and banners. Have the students create these items for themselves and/or for other people. Students could sell some of the items at a profit to earn money for the computer room and/or school.

Have each group create a cover page for the calendar. Other classes or teachers can vote on which cover page gets attached to the front of the calendar.

## School Calendar

Most of the calendars you see hanging around a school have pictures of cats and dogs, scenes from national parks, whales and dolphins, or silly cartoons. These calendars are cute, but are they very helpful?

Today your class is going to start designing your own calendar—a calendar designed for students, by students. After your teacher has divided you into six small groups, start discussing in your group what should be on and in your calendar. Create a list of ideas. Should everyone's birthday be on the calendar? what about holidays? what about the vacation schedule? what about the picture or graphic for each month?

Record your list on the computer, using word processing software. When you are finished, hand the list in to your teacher. Your teacher will take all the different groups' lists, eliminate the repeated items, and then present all the ideas to the class. The class will vote on each item. When the voting is complete and the list narrowed down, your teacher will assign each group two of the twelve months. You and your group are responsible for completing all the requirements for your assigned months.

Get started by dividing the workload. Some of you open or create the monthly calendar format in the desktop publishing or stationery software. Some of you conduct research on birthdays, school events, and such, and some of you work on the needed graphics.

Each monthly layout must contain the following:

- a graphic in at least three days of the month
- text information in at least five days of the month
- a top frame that contains at least one graphic and text
- a bottom frame that contains at least one graphic and text

Once your group has completed your two required months, see if one of the other groups needs some help. Remember, this is a large-group project as well as a small-group project. When all of the groups have finished, hand the "whole year" in to your teacher.

Your teacher will tally grades and print the calendar. If you wish to share your calendar outside of your classroom, you will need to sell the calendars to cover printing expenses. This would also be a great way to earn money for the computer room and/or the school.

